WHAT IS CLAIMED IS:

1. A method of operating a fuel cell system in which water contained in the exhaust air stream of the fuel cell system is recovered, said method comprising:

removing water contained in the exhaust air stream by means of absorption by an absorbing agent;

subsequently releasing the removed water by desorption; and

supplying at least part of the released water to the fuel cell system.

2. The method according to Claim 1, wherein glycol is used as the absorbing agent.

3. The method according to Claim 2, wherein diethylene glycol is used as the absorbing agent.

4. The method according to Claim 1, wherein the desorption takes place by means of air, which is passed through the absorbing agent charged with water.

5. The method according to Claim 1, wherein desorbed water is supplied to a reforming stage for at least one of hydrocarbons and alcohols, for producing hydrogen as fuel for the fuel cell system.

6. The method according to Claim 1, wherein the absorption and desorption take place in at least one stage.

7. The method according to Claim 1, wherein the absorption and desorption are performed continuously in a combined absorption/desorption unit.

8. The method according to Claim 1, wherein a centrifugal reactor in which the absorbing agent and one of the exhaust air stream of the fuel cell system and a desorbing agent are conducted in countercurrent with respect to one another, is used for at least one of the absorption and the desorption.

9. The method according to Claim 1, wherein the desorbing agent is dry hot air.

10. A fuel cell system with a device for recovery of the water contained in an exhaust air stream of the fuel cell system, wherein:

the device for recovery of water contained in the exhaust air stream of the fuel cell system comprises an absorption unit and a desorption unit;

the absorption unit is connected into the exhaust air stream of the fuel cell system; and

the desorption unit is connected to the fuel cell system for at least partial return of the desorbed water.

11. The fuel cell system according to Claim 10, wherein the desorption unit is connected to a reforming stage for at least one of hydrocarbons and alcohols, upstream of the fuel cell system, for returning desorbed water.

12. The fuel cell system according to Claim 10, wherein the absorption and desorption units are formed in at least one stage.

13. The fuel cell system according to Claim 10, wherein for recovery of water contained in the exhaust air stream of the fuel cell system, a combined absorption/desorption unit is connected to the fuel cell system in such a way that a continuous or periodic absorption and desorption process is possible by rotation of the combined absorption/desorption unit or by cyclical switching over of the supply and discharge lines to and from this unit.

14. The fuel cell system according to Claim 10, wherein:

at least one of the absorption and desorption units is a centrifugal reactor, which has supply lines respectively for an absorbing agent and for the exhaust air stream of the fuel cell system or for a desorbing agent; and

the streams proceeding in countercurrent through the centrifugal reactor.